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Editorial

Avenzoar

HAD it not been for the Arabians, the whole important system of medical art, which had been built up by Hippocrates, Asclepiades, Dioscorides, Soranus of Ephesus, Galen and all the other worthies of Graeco-Roman times, would have been lost to the Western world during the "Dark Ages".

But the great Mohammedan physicians, Rhazes, Avicenna, Albucasis and their confreres, prominent among whom was Avenzoar, kept the torch of medicine alight.

When the Moslems invaded Spain, they took their learning with them, and, about 1094 A.D., Abu Merwan Abd al-Malik ibn Abu'l-Ala Zuhr was born, in Cordova, into a highly-esteemed and scholarly Arabian family, which had produced many great physicians. This lad later became, under the (fortunately) abbreviated name of Avenzoar, the most celebrated of the Moslem physicians of the Western Caliphate.

That Avenzoar had a mind of his own, is proved by the fact that he was one of the few men of his time who had the courage to disagree with Galen. He was the first to describe cancer of the stomach, pericarditis (including the dry

form), mediastinal abscess, pharyngeal paralysis and otitis media. He also knew what we now call Pott's disease, and described its nervous complications.

By his description of the itch mite (*Sarcoptes scabiei*) as the cause of scabies, he established his right to be called the first parasitologist after Alexander of Tralles, who wrote a treatise on intestinal worms and vermifuges, about the middle of the sixth century, A.D.

Avenzoar was also the first man recorded as having performed tracheotomy, though he does not always receive full credit for this, because he never did it on a human being, though he carried it out successfully on sheep.

His great work, *Al Teisir*, or "Rectification of Health," was put into permanent form, in Hebrew, in 1280, and is preserved to us in a Latin translation, published at Venice in 1490.

He died at Seville, Spain, in 1162, A.D., at an age which, in those days, made him a very old man.

It is well, sometimes, to consider the erudite Arabians, who preserved for us our professional heritage.

Medical Detectives and Poliomyelitis

A GOOD MANY physicians find, in reading detective stories, the complete mental relaxation that they frequently need so badly, but few of them realize that the work of some of their confreres in solving the problems of disease demonstrates a degree of sleuthing ability not inferior to that shown by the great detectives of fiction—and decidedly more constructive.

Perhaps the epidemiologists stand first in this category of sleuths of science, and the stories of some of their experiences in discovering the "criminal" in certain obscure epidemics are as exciting and complex as those of Sherlock Holmes.

Some of the most puzzling complications arise in connection with the diseases that are transmitted by apparently healthy carriers, among which typhoid fever has been longest and best known and has furnished some of the most thrilling detective stories.

Rather recently it has been ascertained that poliomyelitis must be included in this class of diseases, and the detectives have been seriously handicapped by the fact that almost nothing definite has been known about this disease until the past few years, and even now our knowledge is still fragmentary.

The clues have been confused by the popular name of the disease (infantile paralysis), which has caused many physicians to believe (as some still do) that this one symptom was pathognomonic, and to make no diagnosis of poliomyelitis unless paralysis was present; also, the first word of the common name has led to carelessness in looking for the disease in older patients.

Another difficulty has been that none of the ordinary small laboratory animals generally used in research are subject to the disease, and only a few species of monkeys, which greatly limits laboratory studies.

We have learned, however, that many other maladies besides poliomyelitis can cause the typical paralytic symptoms, and (more important) that most patients with "polio" are never paralyzed

at all, while many are not even seriously ill, though they can transmit the disease as certainly as the most helpless paralytic. Moreover, it is now known that the virus is excreted in the bowel discharges of every such patient, no matter how mild the case may be, and, like typhoid, can be carried by flies.

These bits of information, although they are important, are not the solution of the problem. They are merely clues that may be followed by the trained sleuths of science until they have traced the "criminal" to its lair and "arrested" its depredations. Their work should be followed closely by all clinicians, as it may, at any time, uncover facts that will be helpful in the control and management of this disastrous malady.

♦

Start where you are, with what you have; make something of it; never be satisfied.
—DR. GEORGE WASHINGTON CARVER.

♦

Wisdom and Information

IN ZOOLOGICAL TERMINOLOGY, a human being is listed as *homo sapiens*, but in view of the present condition of world affairs, one sometimes feels that the species designation should be changed.

In an article titled, "*Sapientia et Doctrina*"* (translated at the head of this writing), Father Robert I. Gannon, president of Fordham University, dealt with this idea trenchantly, suggesting that our higher educational system is going rather far afield from the principles that originally underlay it, and from the motto, "*Progeni et Conservare*" (increase and preserve), which used to be its guiding motive.

"Wisdom," said Father Gannon, "is a knowledge of conclusions through first causes, including the First Cause of all first causes. The wisdom studies are theology, philosophy, history, and literature, which give men an understanding of how God works through His creatures." These, of course, have been largely shelved, "for the dura-

*This article appeared in *Think* for October, 1941, before the bottom fell out of things, so that the only education that seems to be truly and pressingly important is now considered to be that which will enable men to kill each other faster, or provide the materials for such killing.

tion," if not entirely discarded, so that the proper present title for our species should be *homo mortifiens*.

It has been said that no age is entitled to more facts than it has wisdom to assimilate, and in the long run that appears to be sound doctrine, even though present events seem to discount it.

However, the Law of Evolution is still with us and cannot be abrogated by any person or group, at home or abroad, however powerful at the moment, and so we may look forward (and it will be well for us to do so) to a time when the purpose of education will be the gaining of information and its development into wisdom by *constructive use*; and its aim will be increase and preservation, rather than wasting and destruction.

Do not tell me what a man thinks nor what he says. Tell me what he does and I shall know him.—GOETHE.

Medical Biographies

KNOWLEDGE of medical history should be part of the equipment of every cultured physician, and such history is largely made up of the stories of the men who did the things that made the history; so medical biographies should be on the "must" reading list of all doctors.

This is no hard and unpleasant task, for the experiences and thoughts of the active and enthusiastic medical men of

all times make more fascinating reading than any novel, and more inspiring to the men of their profession than any other type of literature.

The biographic sketches and portraits that have been appearing in every issue of *CLINICAL MEDICINE*, for the past 18 years, are a unique contribution to medical history, as this material can be found nowhere between one pair of covers—or even in any five or six books—as it has been gathered from many sources and presented with understanding and sympathy.

If you keep no other parts of your copies of "C. M.", read the biographic sketches and look at the pictures; cut them out and file them so that you can read them again and find them where wanted. There may be dividends there that you have been overlooking.

[Since the passing of Dr. Lake, who personally wrote these fine biographies, this particular section of the journal will soon be lacking in new, original material.

The interest of this section to the reader has been questioned and its continuance debated. Actually the answer is up to you, as *CLINICAL MEDICINE* is your journal and it will contain what you want as nearly as possible.

Would you, or would you not, like to see these sketches continue? If so, we would be glad to receive and cooperate with any subscriber who would like to contribute one or more medical biographies. If not, we would like your suggestion as to where this space could best be put to use for you.

Your answers will help to determine the course of coming changes.—G.L., Jr.]

COMING ARTICLES

"Diethylstilbestrol Treatment of Uterine Bleeding," by Karl John Karnaky, M.D., Houston, Texas.

"Some Common Errors of Diagnosis," by Walter C. Alvarez, M.D., Rochester, Minn.

"Low Carbohydrate Diet for Angina," by Benjamin P. Sandler, M.D., Quonset Point, R. I.

"Reduced Temperatures (Cold) in Surgery and Treatment," by Frederick M. Allen, M.D., New York City.

Head Injuries, GRADUATE COURSE — "Skull and Brain Injuries," by Harry E. Mock, M.D.,—"Facial Injuries," by Wayne Slaughter, M.D.—"Roentgen Examination of Head Injuries," by E. L. Jenkinson, M.D.

"Sulfathiazole in Glycerine," by Edward H. Wood, M.D., Ottawa, Canada.

"Gout, Cancer and Diabetes," by Emilian O. Houda, M.D., Tacoma, Wash.

LEADING ARTICLES



Large Doses of Ascorbic Acid in Essential Hypertension*

By N. S. DAVIS, M.D., F.A.C.P. and E. F. POSER, M.D., Chicago, Ill.

High blood pressure is one of the commonest symptoms met with today, and while there are many methods for controlling it, a new and physiologic one, such as this offered by Drs. Davis and Poser, is decidedly promising.

IT IS now generally accepted that renin is a globulin of the enzyme class, which is formed in kidneys rendered ischemic by the Goldblatt or other technics; in kidneys with anomalous blood supplies or polycystic disease, in connection with various types of urinary tract lesions; and in the kidneys of patients with essential hypertension. Renin reacts with the alpha globulins (hypertensinogen) of the plasma proteins, to form a pressor substance, hypertension or angiotonin.

Though renin has been found in experimental animals in shock, as a result of extensive acute hemorrhage, it is not found in the chronic primary or secondary anemias or in other chronic conditions in which the oxygen content of the blood is low, though the blood pressure is characteristically low in such syndromes. The formation of renin, therefore, does not seem to be caused by a lack of oxygen in the renal blood of animals with experimental or in human beings with clinical hypertension. It seems to develop when there is a relative or absolute deficiency of elements required for the formation of the respiratory enzymes essential to the normal dehydrogenation and deamination of amino acids by oxidation in the renal cells, and to normal supra renal metabolism.

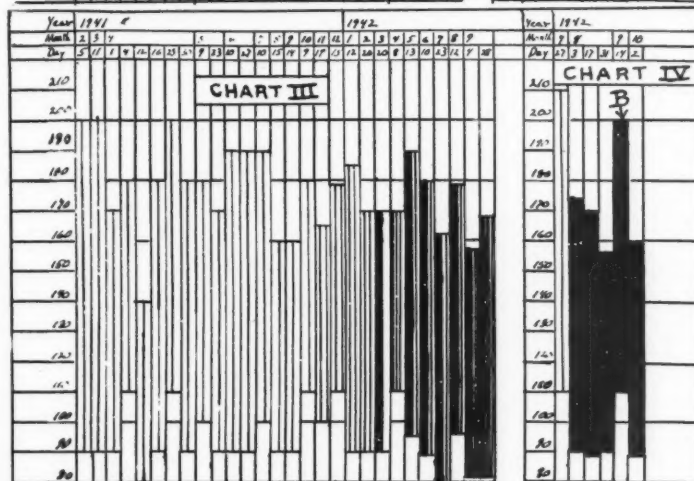
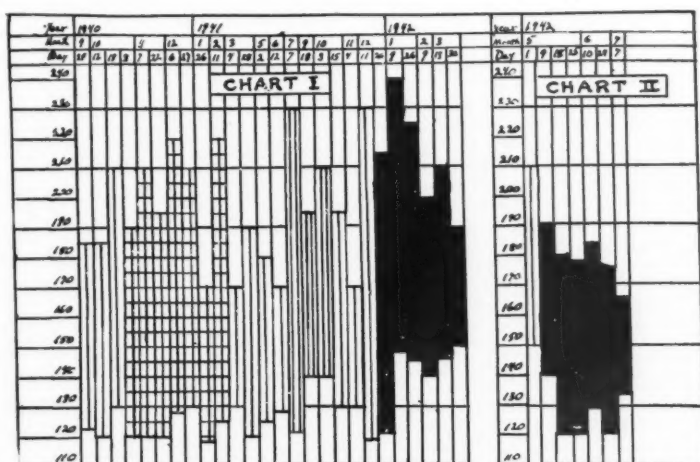
Blood pressure studies in various parts of the world suggest that essential hy-

pertension may be caused by chronic minimal dietary deficiencies, such as are all too common among the people of all income groups in this country. This hypothesis is confirmed by the work of Calder, who has produced a high blood pressure in rats by administering a diet deficient in the heat-stable fractions of the vitamin B complex. He believes that a riboflavin deficiency plays the dominant rôle in the production of the hypertension in rats, but that other vitamin B fractions, as yet unidentified, are also involved. The ischemic kidney of animals with experimental hypertension may be considered to be a malnourished kidney because of its limited blood supply.

There is some evidence that the suprarenal glands may play a part in the production of clinical hypertension. High blood pressures do not develop when renal ischemia is produced in suprarenalectomized animals. Diffuse or adenomatous hyperplasia of the suprarenal cortex has been reported to be a common finding in hypertensive cardiovascular-renal disease. Other tumors of these glands are known to cause certain types of arterial hypertension.

Ascorbic acid (vitamin C) may be a regular or alternative constituent of the cellular enzymes required for the normal dehydrogenation and deamination of protein split products by oxidation in the renal cells. It may prevent dehydrogenation and deamination by decarboxylation, when the normal respiratory enzymes are lacking. When the decarboxylation processes are invoked, pressor amines and renin may be formed. As the suprarenal glands contain more vitamin C than do other tissues, it is probably essential to their normal cellular metabolism. It may interfere with the formation of hypertension or cause it

*Presented before the Central Society for Clinical Research, in Chicago, November 7, 1942.



A - After 1 Week of Rest in Bed : B - Son Drafted.

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|---|---|
| <input type="checkbox"/> Control Period (no vitamins) | <input checked="" type="checkbox"/> Thiamin, Niacin & C (1Gm. daily) |
| <input checked="" type="checkbox"/> Synthetic Vit. B Complex | <input checked="" type="checkbox"/> Vit. C (1Gm. daily) & Niacin |
| <input checked="" type="checkbox"/> Synth. & Natural B Complex | <input checked="" type="checkbox"/> Vit. C (1Gm. daily), riboflavin, Thiamin & Niacin |
| <input checked="" type="checkbox"/> Synth. B Comp. & C (1Gm. daily) | <input checked="" type="checkbox"/> Vit. C (1Gm. daily) in 2 or 3 equal doses |

to be fixed, as suprarenin is under normal conditions.

Therefore Dr. Poser's account of the results obtained with the administration of 1.0 gram of ascorbic acid daily to a few patients with moderate hypertension seemed worthy of further study. This therapy has now been used in the treatment of a few patients whose blood pressures were known to have been persistently high or rising. The ascorbic acid has been administered in doses of 333 mg. three times a day, except in two instances, in which 500 mg. have been given twice each day. As will be noted in the charts, some of the patients received vitamin B complex or some of its fractions before the ascorbic acid therapy was instituted, and others have received both vitamins.

The administration of 1.0 gram of ascorbic acid daily to patients with well established arterial hypertension has almost invariably caused subjective relief. In most patients it has caused a marked lowering of the blood pressure levels, but in a few it has had little if any effect. Brief protocols and charts illustrating typical blood pressure curves after its administration follow:

Case Reports

Case 1: A housewife, 57 years old, has had a severe hypertension since 1936. The physician who had been in charge reported that since then her blood pressure has ranged between a low of 150/110 and a high of 240/140.

Her father died of uremia at 56; her mother, of heart disease at 66; one brother, of angina pectoris at 51; an-

other brother of coronary occlusion at 51; and one sister of uremia at 53. One sister was living who also had a high blood pressure.

Early in September, 1940, her blood pressure was 230/130 and her nonprotein nitrogen 95 mg. percent. The blood pressure curve, following recovery from this acute uremic episode, is shown in Chart I.

Case 2: A pharmacist, 43 years old, was very much overweight, tired easily, was dyspneic on the slightest exertion, and had occasional paroxysms of nocturnal dyspnea. These symptoms had been present to a greater or lesser extent since he had pneumonia in 1938. Since that time his blood pressure was said to have been above 200 whenever it had been taken. The effect of ascorbic acid on his blood pressure is illustrated in Chart II.

Case 3: A retired school teacher, 69 years old, complained chiefly of tinnitus, increasing deafness and vertigo which, at times, was quite distressing, and of arthritis in her knees. Her blood pressure curve is illustrated in Chart III.

Case 4: A housewife, 50 years old, had had a panhysterectomy in March, 1941. A few weeks later she developed severe vertigo and was found to have a blood pressure over 200. She stated that it had not been below that figure at any time since. Since the blood pressure curve was plotted (Chart IV), she has been working as a matron in a munitions plant and her systolic blood pressure has varied between 160 and 190.

700 N. Michigan Ave.

Physiology of Aging

The picture of aging is not so dark and depressing as it seems, for these reasons: (1) an efficient mental life is possible, even with reduced physical factors; (2) moderation in all things, plus competent medical guidance in regard to the accidents of disease, will tend to prevent undue corrosion of specific life links, so that all of them pass down the hill gradually and in step; (3) the man or woman who has passed the first sixty or seventy years in honest toil and persistent efforts at understanding has accumulated a great reserve of wisdom, now at the disposal of the younger generation; a reserve of wisdom which antidotes the stresses and strains induced by the fears, the vanities, the greeds and the ignorance of the earlier years.

The progressive age changes, not shown to be due to specific disease are: (1) Gradual tissue drying, (2) gradual retardation of tissue oxidation (lowering of the basal metabolic rate), (3) gradual retardation of cell growth, repair and division, (4) cellular atrophy, degeneration, increased pigmentation and fatty infiltration, (5) gradual decrease in tissue elasticity and degenerative changes in elastic connective tissue, (6) decreased speed, strength and endurance of skeletal neuromuscular reactions, (7) decreased strength of skeletal muscle, (8) progressive degeneration and atrophy of the nervous system, impaired vision, hearing, attention, memory and mental endurance.—A. J. CARLSON, M.D., in *Northwest Med.*, Jan., 1943.

Diseases of the Duodenum*

By ROSCOE R. GRAHAM, M.D., F.A.C.S.

Asst. Professor of Surgery, Univ. of Toronto, Toronto, Canada

The duodenum lies in the complex and difficult upper right quadrant, and its disorders are not so well understood by most general clinicians as they should be. Dr. Graham here offers some sound and practical suggestions for diagnosis and treatment.

IN MANY of the diseases of the duodenum the cause is unknown, and complete relief can not be promised.

Duodenal Obstruction and Diverticula

A partial or complete obstruction of the duodenum may be caused by compression of the mesenteric arteries or a relaxed ligament of Treitz. (Fig. 1.) Ptosis of the right colon is often associated with it.

Acute obstruction is not treated surgically, but by inserting a duodenal tube,

all necropsies, being common after the age of 50 and rare in persons below that age, so they are definitely acquired lesions.

They are usually located on the concavity of the duodenum and are surrounded by pancreatic tissue. Ulceration and inflammation do not occur in duodenal diverticula, and their surgical removal is rarely necessary.

Duodenal Ulcer

Duodenal ulcers are primarily treated by medical means, surgical treatment being added, if necessary, like another medicine.

Complications, such as perforation, scar stenosis, penetration, hemorrhage, and occult duodenal ulcer may occur.

Perforation of an ulcer is followed by a discharge of stomach contents into the abdominal cavity. Repeated cultures are rarely positive for bacteria, and the finding of pathogenic bacteria is an extremely rare occurrence. These patients do not die of peritonitis.

Treatment of perforated ulcer: The patient is made comfortable with morphine and intravenous fluids (blood or blood serum is given if the patient is in poor condition) in sharp contrast to the old procedure of rushing him to the operating table for an "emergency operation".

When it is time to operate, a piece of omentum is cut and sutured over the perforation, and the resulting fibrin heals all tissues. The sutures are placed in the healthy duodenal (or gastric) wall and tied only securely enough to hold the piece of fat over the opening. They should never be tied tightly.

This simple procedure was carried out on 97 patients, 91 of whom survived. Of the 6 who died, only one died of peritonitis. These operations were carried out by residents, not by skilled staff surgeons. Only 13 secondary operations were needed later, so there is no advantage in doing anything more than closing the perforation at the time of the first operation.

Penetration

Any peptic ulcer patient who is not relieved by medical care, and especially by rest in bed, should be suspected of having penetration of the ulcer into the pancreas, liver, or biliary system. It

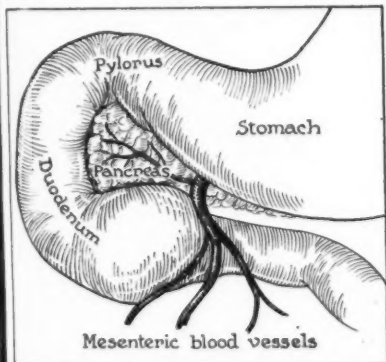


Fig. 1. Duodenal obstruction due to compression by the superior mesenteric vessels.

preferably of the double-lumen (Miller-Abbott) type, to deflate the bowel. Subacute or chronic obstruction is treated by correction of nutritional deficiencies and by abdominal exercises. Surgical procedures have not given consistently good results.

In many cases, duodenal diverticula are symptomless, and are found only on roentgenographic examination of the gastro-intestinal tract. This is easily understood when it is realized that such abnormalities are found in 12 percent of

*Presented before the Chicago Surgical Society, Oct. 6, 1942; abstract by R. L. G.

should be suspected when an ulcer loses its "timing", and does not occur in regular cycles. Penetration most commonly occurs in young persons.

Bleeding

Be sure that the bleeding, if any, is coming from an ulcer (cirrhosis of the liver must be ruled out). Bleeding from an ulcer originates from the posterior wall, as it is only here that the vessels are large enough to cause severe bleeding. A recurrent hemorrhage indicates that the vessels are large enough to recanalize. Continuous minimal bleeding indicates cancer or some other lesion (when repeated tests for blood in the stool are positive) rather than ulcer. A roentgen ray study of the colon, especially the difficult right colon, may show a cauliflower carcinoma. Massive hemorrhage, in patients over 50 years of age, is an indication for surgery. Don't wait for a second bleeding, as the mortality increases rapidly in older persons.

If medical care is elected, give full feedings, to relieve the protein deficiency (Meulengracht method).

Occult Duodenal Ulcer

The occult duodenal ulcer occurs in the descending duodenum, above the papilla. It is impossible to diagnose clinically, and is infrequently diagnosed by x-ray examination. It tends to penetrate retroperitoneally and can easily be missed, even when the abdomen is opened at exploratory operation. It will be found if the posterior peritoneum is incised, lateral to the descending duodenum, and the duodenum thus mobilized so that it can be pushed to the left. (see Fig. 2). Such a hidden ulcer may give rise to pains resembling those of gall-bladder disease, and occasionally even jaundice (due to edema of the bile duct) may appear.

Pyloric Stenosis

Pyloric stenosis may be caused by edema of the pylorus, by scarring, or by spasm. In young patients with "obstruction of the pylorus", do not operate until their nutrition has been restored to normal with blood transfusions, vitamins, thick cereal, and general medical management. The obstruction may have been due to edema, in a patient with low body proteins. The same is true for patients who have been on low-protein diets and who vomit while under medical care or after operations.

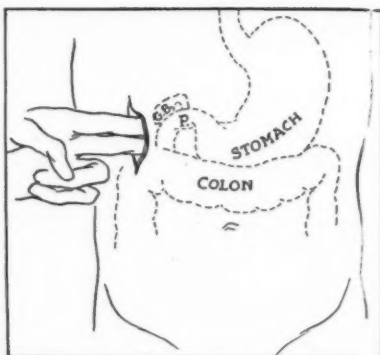


Fig. 2. Mobilization of the duodenum after incising the peritoneum lateral to the descending duodenum.

Scarring causes a mechanical obstruction, secondary to atrophy of the mucosa and healing of an ulcer. This is commonly found in older patients with a small amount of hydrochloric acid in the stomach. (Fifty percent of normal persons past the age of 50 have no gastric acidity.)

Surgical Pointers

Never permit a patient to be operated upon after a prolonged period of rest in bed. The mortality of surgery of any kind is much greater when performed upon patients who have been under medical care and complete rest in bed. There must be activity first, to insure normal functioning of the body. Let the patient eat a full diet and be up as much as desired for a few days before operating. If the patient refuses, it is safer not to operate. If the patient complains of a "cold", even though there are no physical signs, do not operate. We saw a death, due to pericarditis and peritonitis, after operating upon such a patient.

Surgical resection of all the lesser curvature of the stomach is the best treatment. Gastro-enterostomy should be abandoned. In patients 50 years of age, with scarring stenosis of the pylorus and low acidity, a pyloroplasty is all that is needed.

The patient must be taught the three R's: Rest, Recreation, Refusal of alcohol and tobacco. Minor infections must be taken seriously.

CIRCUMSTANCES

We are all the creatures of circumstance, but circumstances are not entirely beyond human control. Their control is, however, largely proportionate to our control of ourselves.—R. AUSTIN FREEMAN.

Cremation

By GEORGE B. LAKE, M.D., Waukegan, Ill.

All family physicians, who are the counselors of their patients, should be informed regarding the details of the cremation of human bodies, so that they can answer questions about the method intelligently. Dr. Lake here sets forth the points one ought to know.

AS FAR back as history goes, human beings have taken some pains in the disposal of the mortal remains of members of their families and those who were connected with them in any way. Some peoples have recognized the fact that the dead body contained nothing of that divine essence which they recognized as their friend; while others have been unable to convince themselves that one portion of inanimate flesh is quite like another and have instituted various practices whereby the physical tenements once occupied by their dear ones might be preserved from dissolution as long as possible.

The Egyptians seem to have carried this idea of the preservation of human remains further than any other nation, although the ancient Peruvians also mummified their illustrious dead. In both these countries, however, because of the high cost of the mummifying process, only the rich or famous received this attention, the bodies of the poor being sealed in niches or buried in the ground. Among certain classes of people in the United States there seems to be a tendency to return to something like these practices, and careful embalming, together with the use of impervious metal caskets and underground vaults of concrete are rather widely used.

Historical Notes

Evidences have been found that human bodies were disposed of by burning as long ago as the Bronze Age (tenth century B. C.), and it is well known that cremation was in great favor among such highly civilized peoples as the Persians, the Babylonians, the Greeks, and the Romans. It is widely used today in many parts of the Orient.

For some reason, the Christian Church threw all the weight of its influence against the practice of cremation and forbade it, under pain of penalties in this world and the next, so that even nations which had been wont to employ this highly satisfactory method aban-

doned it when they came under the influence of Christianity.

Many centuries elapsed before anyone dared to defy the authority of the Church and dispose of the bodies of their dead by burning, and credit for the restoration of the practice is due to the Italian physicians and chemists, Polli and Brunetti, and to others who took a bold stand in favor of it.

The first crematory in Europe was built in Milan in 1877, and it became so popular that, by 1882, Italy had five other institutions of the kind.

The idea spread more slowly in Germany. Gotha built the first German crematory in 1878, but a second (the one at Heidelberg) was not constructed until 1891, and the third (in Hamburg) in 1895.

Other European countries were still slower in taking action in this matter—Switzerland, 1889; Sweden, 1887; Norway, 1899; France, 1889; England, 1902, and Denmark, 1906.

The first interest in cremation manifested in the United States was in 1874, when the "Society for Cremation of the Dead" was organized in New York City. The first crematory in this country was built in Washington, Pennsylvania, in 1876, by Dr. F. Julius Le Moyné, who was an enthusiastic advocate of the practice and whose own body was cremated in 1879.

In 1881, the New York Cremation Company was organized and a crematory was built in the metropolis to serve as a model. From this time the idea spread rapidly until now most of our large cities are equipped to dispose of bodies in this manner.

In considering the question of the disposal of human remains there are three main points to be considered: the hygienic, the esthetic, and the economic. For some, the occult aspect of the case is also of importance.

Hygienic Aspects

Numerous and extensive investigations have demonstrated that bacteria present in a body at the time of its burial will live in the soil for years and may, at any time, escape into the water supply; to say nothing of possible infection of those who may have occasion to work in the soil where bodies have been buried.

In addition to this, ptomaines and other solid and gaseous products of de-

composition may and undoubtedly do escape, not only into neighboring water supplies, but also into the air, so that the vicinity of a cemetery is always an insalubrious neighborhood for human habitations.

Thus it appears that cremation, especially of the bodies of those who have died of any contagious or infectious disease, is a hygienic measure of great importance. This is especially true in the large centers of population which are constantly increasing in number as well as in size, as the packing of human bodies into the soil of large cemeteries, which are frequently situated in densely populated neighborhoods, cannot fail to have an unfavorable influence upon the health of hundreds.

Esthetic Considerations

Although there are many people who still shrink from the idea of having the bodies of their relatives cremated, there is, of course, no doubt that this is a far more esthetic process than that of burying them in the ground. The fact that few have the courage to visualize or contemplate the things that happen to a buried body readily indicates which method should be preferable by tender-hearted people.

Economic Factors

Objectors to cremation have sometimes contended that cremation takes from the soil much nitrogenous matter which it needs. The reverse of this is true. When a body is buried in an impervious coffin or an underground vault, no enrichment of the soil can take place. Even under ordinary conditions the decomposing matter is so far below the surface that a long time must elapse before any effect can be produced upon the vegetable growth above. In any case, crops are not grown in cemeteries, and seepage into the surrounding soil is a long and leisurely process.

During cremation all of the nitrogenous elements in the body are vaporized and escape into the air, being returned to the earth by the next rain, where they improve the soil far more than can be done by a body decaying in the grave.

From the standpoint of personal economics the matter comes closer home. Burial space, especially in city cemeteries, is very costly and the people who dread the idea of cremation for sentimental reasons are almost always the ones who desire to incase the bodies of their dead in expensive bronze coffins

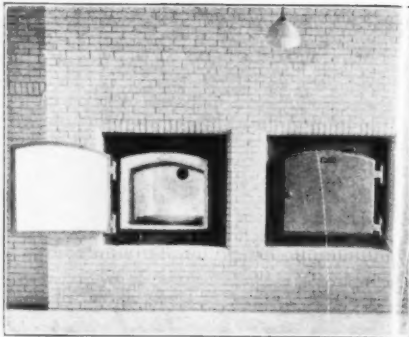


Fig. 1: Crematory Retorts, showing front doors.

and seal these into concrete vaults. All these things cost a great deal of money; so much so that it is not infrequent that a family will spend the entire savings of a lifetime in order to give the remains of a dear one a "decent burial."

If cremation is to be practiced, the lighter and more readily combustible the coffin is, the better, so that much expense can be saved here. Moreover, the ashes which remain after the fire has done its work are small in amount, wholly inoffensive, and may be — frequently are — simply scattered on the ground, so that no burial space is required. Those who wish to bury the ashes can do so in a space much smaller than that required for the accommodation of a coffin, and thus make another notable saving.

The charge of cremating a body, in Chicago, is only about \$40, which includes the cost of a simple container for the ashes and also, as a rule, the use of the chapel for the funeral service, if desired.

Arrangements for Cremation

The cemeteries which have a crematory usually house it in the lower part of the mortuary chapel, so that there need be little or no handling of the coffin when the funeral ceremony is over. The first Chicago crematory was built in Graceland Cemetery in 1895. This is still a very pleasing and efficient institution. There are now five such institutions in the city.

If a body is to be kept at all after death it may be lightly or completely embalmed. It is brought to the chapel in a wooden coffin without any metal

lining and placed upon the bier, which stands over a movable section of the floor. If death has been due to contagious disease the coffin is not placed in the chapel but carried directly down into the cremation room.

When the service is over, the friends and relatives go out and leave the coffin restly quietly in the chapel. There is none of the heart-breaking ritual of lowering it into the grave and covering it with earth. One or two members of the family usually remain until the body has been placed in the retort, and sometimes until the cremation is complete.

The coffin is lowered from the chapel by a lift and wheeled to the front of the retort. The handles, name-plate and any metal work on the outside are removed. The door of the retort is opened, the coffin slipped in and the door closed. About one hour later (starting with a cold retort) the cremation is complete, and an hour after that, if necessary, the ashes can be removed, though it is better to leave them three or four hours or over night.

The retorts (See Fig. 1) are made of heavy fire brick and are usually heated by some form of burner using fuel, oil and air under heavy pressure. The jet



Fig. 3: Simple and elaborate bronze urns. (The one at the left cost about \$40; at the right, about \$200.)

or jets of flame are not directed upon the body, but against the top and sides of the retort.

The coffin and clothing, which are dry and inflammable, are promptly consumed and the ashes are swept out by a powerful air blower, through a smoke burner, and into the chimney, from which nothing escapes but odorless gases and a little fine dust.

The heat gradually evaporates all the moisture from the body and when this point is reached the temperature of the retort is from 1,600° to 2,400° F. The fuel oil is now shut off and the oxidizing process, by which the remains are converted into carbon dioxide and nitrogen, proceeds by means of the intense heat and a powerful forced draft. At the end, nothing remains but the ashes of the bones—almost pure calcium phosphate.

When the retort is opened the ashes are removed with a heavy steel brush, which reduces the bones to a coarse, granular powder. A magnet removes all the nails, screws and tacks which were used in the construction of the coffin. The ashes are placed in a small bronze box, 5x5x5 inches, or in a simple stone urn, or are scattered to the winds among the shrubbery of the cemetery, as directed by those responsible. The receptacle containing the ashes may be taken home by the relatives; buried in a small grave; stored in the vaults of the cemetery (at a charge of \$5 a year); or placed, in a more or less elaborate urn, in the columbarium (see Fig. 2), which is provided by some of these institutions, where a permanent niche may be purchased, the same as a lot outside.



Fig. 2: Columbarium, or Urn Room.

Some of the urns deposited in this way are very beautiful and costly (see Figs. 2 and 3).

Before cremation can take place the authorities must have a certificate, signed by the person responsible for the disposal of the body, directing that it be disposed of in this manner and stating what is to be done with the ashes. Those who desire that their bodies shall be cremated will be wise to leave *written* directions to that effect, in their wills or otherwise.

This method is rapidly gaining in popularity. At Montrose Cemetery, Chicago, there were, in 1924, 1,403 burials and only 82 cremations; while in 1925 there were 1,322 burials and 115 cremations—

the percentages being 5.8 percent in 1924 and 8.7 percent in 1925. At Graceland Cemetery, in 1932, there were 496 burials (40 percent) and 744 cremations (60 percent); in 1937, 446 burials (34 percent) and 866 cremations (66 percent).

In many respects our present methods of dealing with human remains are unhygienic, unesthetic, uneconomic and, in some instances and localities, absolutely barbarous.

It is to be hoped that the simple, cleanly, dignified, and civilized process of cremation may rapidly replace all less satisfactory ways of disposing of the bodies of those who have gone on to other fields of endeavor.

307 Washington St.

The Stader Splint

To correct any mistaken impressions on the part of our readers in regard to the illustration that accompanied the discussion of the Stader splint which appeared in the January, 1943 issue of CLINICAL MEDICINE, page 26, we reproduce here a picture of the splint itself, see Fig. 1, as our first rough sketch did not do justice to this device.

The principle of the Stader splint is to imbed stainless steel pins into the bone on each side of the fracture. The pins

are connected by an adjustable bar and plates, and manipulated by a turn buckle and set screws, which assist in reducing the fracture and then immobilize it.

The entire manufacturing output of Stader splints is reserved for the armed forces until the end of the war, when the advantages and versatility of setting and fixing fractures with this apparatus will bid fair to revolutionize the treatment of a high percentage of all civilian fracture cases.

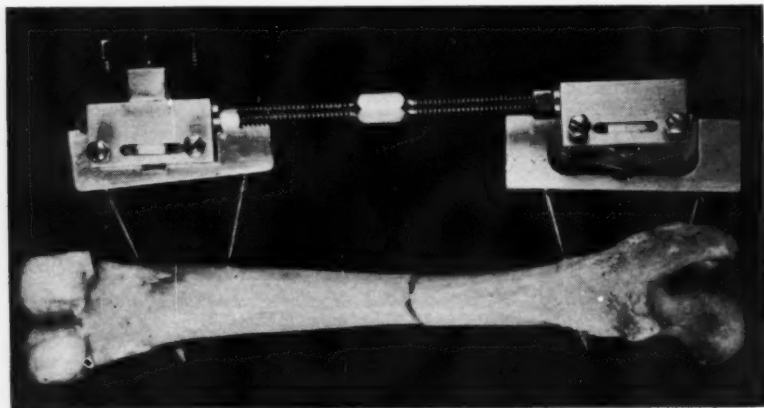


Fig. 1. Stader splint showing pins and adjustments.



GRADUATE COURSE

X. Diagnostic Errors, Part I

Common Errors in Diagnosis of Chest Diseases

By SAM E. THOMPSON, M.D., F.A.C.P.,
and WM. W. COULTER, JR., B.S., M.D.
Kerrville, Texas.

FROM the standpoint of the chest physician, as is true no doubt of the other specialties, the most common error made by the general practitioner in the diagnosis of chest diseases is that of arriving at a conclusion with insufficient evidence. The "snap diagnosis", so impressive to medical students and a certain proportion of patients, is in our opinion best described as a *short cut to the wrong answer*. It cannot be too often repeated that there is no substitute for a *careful and complete examination*. This does not mean, either, that one should examine the patient until an abnormal sign is found and then pat himself on the back and write the diagnosis on the chart. Continue with the examination even though in your own mind you know that you will find nothing but confirmatory evidence. In more cases than you expect, you will learn something new about the case, and in the other cases you will have had valuable practice. If you are already so proficient a diagnostician that practice has no value to you, you will never make a mistake anyway and have no reason for any study at all.

The beginning of this paper may seem to be advice more suited to students than to experienced practitioners, but we believe that it is very important advice. In our own practice we use a printed form on which to record the examination in order to insure that we ourselves will not fail to make a complete examination in any case.

Chronic Bronchitis

To become more specific about common errors, the most frequent incorrect diagnosis that we see is that of chronic, or, more rarely, acute bronchitis. The

majority of the tuberculous patients seen by us have at some time in their illness been diagnosed chronic bronchitis. Of course they had bronchitis; *every one with active open tuberculosis has*. However, if the physician had not stopped at the point he did in the examination, he would have discovered the *cause* of the bronchitis and accomplished what should be the aim of every one of us—that is, to make an early correct diagnosis. If every case of bronchitis is considered as a symptom and the cause searched for until there is actual evidence either that the bronchitis exists alone or that the cause has been found, many extremely grave errors will be avoided. Failure to suspect an early case of tuberculosis is sometimes excusable for the doctor, if the signs are obscure. (We do not mean to suggest that a long standing cough is an obscure sign.) To the patient, however, it may mean the difference between a comparatively rapid cure and a lingering illness; and we must never forget that the most important person in medicine is the patient. If there is doubt in your mind as to whether or not radiographic examination is needed, have it done. "It is better to be safe than sorry." The usual objection to this is the financial burden on the patient, but when the possibility of long time loss of income is balanced against the relatively low cost of a chest x-ray the odds are in favor of the x-ray.

Anemia

Surprisingly enough, almost as common a diagnosis as chronic bronchitis is that of a "run-down condition". Such a diagnosis, even if tempered by the addition of hypochromic anemia, is nothing more in most cases than an admission on the part of the physician that he is unable to find the cause of the symptoms. Until every possibility has been exhausted the diagnosis should be held in abeyance. The fact that physical examination reveals nothing does not mean that there is nothing wrong; absence of proof is not proof of absence. Individuals do not become

run-down for no reason, and the decision that a run-down condition exists should be a starting point in the final diagnosis, not an end in itself. Let us say again that negative physical examination means no more than a negative sputum examination. Major pathological changes may exist in the lungs without any physical signs whatsoever. It is also well known that physical signs may disappear without the disappearance of the lesion, and that they may return with no change in the disease. Physical examination of the chest should, therefore, be repeated at frequent intervals as long as they are negative if there is any reason to suspect that there may be lesions in the lung.

Pleural Effusion

As regards difficulties in the actual physical examination, perhaps more difficulty is encountered in distinguishing between thickened pleura and pleural effusion than any other single thing. The signs are nearly the same; diminution or absence of breath sounds, dullness or flatness over the affected area, and lessened fremitus. It will be in many cases a considerable help to observe the position of the mediastinum. In many cases of pleural effusion it will be shifted to the opposite side. Also, a small triangular area of dullness will often be found filling the angle between the vertebral column and the base of the normal lung; this is known as Grocco's triangle and is caused by shift of the mediastinum posteriorly due to the pressure of fluid. When found it is a valuable differential diagnostic sign, but neither its absence nor the absence of shift of the mediastinum anteriorly can be considered evidence that pleural effusion does not exist. The mediastinum may be stiffened, or the erector spinae muscles may be of such thickness as to seriously interfere with percussion of Grocco's triangle. If doubt remains, no harm can be done by the insertion of a needle into the pleural space. The needle should be of sufficient diameter to insure the passage of pus, as it is possible to have an empyema without typical symptoms. Constant suction should be made on the needle, so that an infected pleural space will not be transversed and the lung entered with a contaminated needle. In the event that there is neither fluid nor pus in the pleural space one need not fear entering the lung; it is extremely unlikely that any harm would result from such an accident if aseptic precautions are taken. If one is available, it is wise

to attach a water manometer to the setup. This will not only give information as to the pressure in the cavity, but will usually record the entrance of the needle into either the pleural cavity or the lung. The use of a rather dull needle is advised, as this minimizes the chance of entering the lung, and also affords more tactile sensation to the fingers in introducing the needle.

Once a pleural effusion is diagnosed the cause should be searched for, and if no cause is found the effusion should be considered tuberculous. The textbooks give a certain percentage of pleural effusions as being tuberculous in origin. Neither of us recall just what this percentage is, since we regard all pleural effusions as being tuberculous until they are proven otherwise. It would, of course, not be justifiable to treat every patient who has had a pleural effusion as if he had active tuberculosis, but it is certainly justifiable to make checkups at frequent intervals—say every three months—by x-ray in order to catch any beginning lesion at its beginning. The fact that a radiograph has been made and found negative does not mean that there is no pathology. We repeat that absence of proof is not proof of absence.

Sputum Examination

Examination of the sputum has already been mentioned in passing, but deserves more attention. Repeated sputum examinations should be made in every case where there is sputum. A recent baffling case of the authors was solved after a period of several months by laboratory report that the sputum was loaded with tubercle bacilli. This case had been examined radiographically and by bronchoscopy as well as by physical examination, both by the authors and several consultants of national reputation, over a period of months with no definite diagnosis. If sputum examinations had not been persisted in daily for this time the answer might still be in doubt.

"Post-influenzal Asthenia"

Another surprisingly frequent diagnosis is that of "post-influenzal asthenia". While such an entity may exist (we are not certain it does), such a diagnosis should never be made until the most exhaustive search for pulmonary tuberculosis has been made, and even then we should be prepared to re-investigate upon the slightest suspicion that something may be wrong. The same statement applies to unresolved pneumonia, except that we have not seen a proven case of unresolved pneumonia in

our practice to date, and will be rather surprised if we ever do.

In conclusion, let us note that an attitude of suspicion coupled with a careful and complete examination is of more value in the diagnosis of chronic chest diseases, and, we believe, in the diagnosis of most other diseases, than any amount of skill or astuteness.

Diagnoses Commonly Missed in General Practice

By M. PINSON NEAL, M.D.*
Columbia, Missouri

A RAPID review of cases from a consultant surgical and autopsy service in pathology for a 25 year period impresses one with certain mistakes, failures in the utilization of available and dependable diagnostic procedures, and, only too often, an inadequate or misinterpreted history. The intent here is to discuss from a practical standpoint common conditions that can be diagnosed and intelligent therapy applied toward cure, saving life, preventing complications, and shortening periods of illness.

Pyrexia

Body temperatures of 100–102, even 104° F. or higher, are common in the acute infectious, communicable, exanthematous, and inflammatory diseases; yet it is not rare that severely ill patients suffering from one of these possess normal or subnormal temperatures. These represent massive fulminant infections, little or no resistance of the host to the infection, resistance broken by the disease, or the terminal stage of a fatal illness. Most practitioners interpret such temperatures in their true perspective, but not uncommonly the opposite holds true. But what of the pyretic patient in whom no obvious cause is found, where no external evidence, as a rash, is presented, no symptoms or complaints of pain, cough, or diarrhea are elicited, and no physical findings, as rales, lung consolidations, rose spots, muscle rigidity, spasm, or enlarged spleen, are found? These are the patients who try the mettle of the general physician and of the consultant. From experience here is offered a discussion on the following conditions, all of which are accompanied by fever that at times is very difficult to satisfactorily explain: toxic goiter, malignancies, tuberculosis, syphilis, cardiac (myocardial) infarction, and nervous exhaustion.

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Toxic Goiter

Patients with toxic goiters often have fever with readings of 100°, even 101° F., for weeks or months, and the diagnosis is missed by physician after physician. The toxic goiter can and should be recognized from the general symptoms, signs and history and be confirmed or diagnosed by the basal metabolic rate. Detoxifying iodine therapy properly applied followed by re-examinations and repetitions of the basal metabolism determination will clarify the questionable case, without, or at least prior to, vessel ligations or removal of the diseased thyroid. Retrosternal, often termed "intrathoracic goiter", commonly missed on physical inspection and examination should be remembered as a possibility, and as recognizable by x-ray.

Malignancies

To the carcinomas and sarcomas, the common malignant tumors, we especially add Hodgkin's disease and the leukemias. A rather high percentage of obscure and prolonged fevers eventually is found to be associated with some malignant neoplastic disease. With the modern x-ray available for study of internal structures and the use of opaque substances for the demonstration of filling defects, displacements, stomata, stenoses, or other abnormal features, many formerly obscure primary tumors are now readily found. If and when lesions are accessible for biopsy, as breast nodules or lumps, enlarged lymph nodes, especially those sentinel to an undiagnosed lesion, as an ulcer or a solid growth, they should be removed and submitted to a pathologist for diagnosis. The leukemias are readily recognized by their diagnostic blood findings, or when in the aleukemic phase, by bone marrow punch (biopsy). Malignancies that have become ulcerated, as in stomach, rectum, or uterus, or that are undergoing necrosis, especially large growths, as involve uterus, stomach, liver, lungs, and bones, generally cause febrile reactions, and, in fact, pyrexia is to be anticipated and should not be cause for undue surgical search for "obscure infections". We have performed many autopsies on the victims of undiagnosed malignancy of a few months or even of three to five year history of fever of undetermined origin.

Tuberculosis

This universal disease of man is still a common cause of pyrexia of undetermined origin (P.U.O.). Only within

the past ten days two cases of very active and massive pulmonary tuberculosis with bilateral cavitations have come to our autopsy table with the cause unrecognized, without a sputum examination for the diagnostic acid-fast organisms, or the benefit of available x-ray service. One, a male of 70 years of age, "had been failing for three months, had lost 30 to 40 pounds in weight, and had run a fever of 101° to 103° F. for six weeks". The other, a male 24 years of age, had "lost some weight, was very weak, and had a fever with a daily maximum of 103° to 105° F. for over five weeks". With the x-ray for study of the lung fields, bones, and other tissues, and the bacteriology laboratories for the examination of sputum or other excreta for the telltale tubercle bacilli, there can be little excuse for tuberculosis to go unrecognized.

Syphilis

Frequently, this, another universal disease of man and the imitator of almost all diseases, leads to sundry manifestations, one of which is prolonged fever. This has been seen so many times that it has become a personal rule always when considering unexplained pyrexia to ask, "What is the Wassermann or Kahn reaction?" Even though these are negative, syphilis has not been eliminated. There should be a globulin determination, a cell count, a Wassermann or Kahn reaction, and a colloidal gold test upon the spinal fluid. If these and repeated blood Wassermann or Kahn tests are negative, then the *therapeutic test* is yet to be tried before syphilis is entirely ruled out.

Cardiac (Myocardial) Infarction

Coronary artery occlusion, coronary artery disease, is the high price paid for overwork, anxiety, worry, and the great use of tobacco, as seen particularly in the medical profession. The death rate from coronary disease is alarming. Not all cases of coronary artery occlusion exhibit the severe and diagnostic manifestations given in the classical descriptions. Some of the lesions escape diagnosis and the patient suffers a cardiac rupture or severe dilatation during exertion or under excitement. He has unknowingly abused his heart and shortened life because the primary lesion was unrecognized. *These cases are entirely missed unless there are post mortem examinations.* Too often the pathologist, at the autopsy table, diagnoses coronary artery disease with the finding of sclerotic changes, occluding thromboses, infarctions, myomalacia, spontaneous

ruptures, myocarditis, myocardosis, and scarring.

A well considered history with clinical signs and symptoms should lead to the recognition of this disease at least in its more severe forms. There is dramatic abruptness in onset, whether by thrombus, atheromatous ulcer, local hemorrhage, inflammatory edema, or arteriosclerotic nodule. The clinical evidences of shock, circulatory collapse, fever, the increase in total leucocyte count with a rise in neutrophil percentage, accompanied by arrhythmias, fibrillations, and even block, the dyspnea, nausea and vomiting, the grayish pallor with severe sweating, the apprehensiveness and restlessness of the patient, and the severe, constant, deep-seated, agonizing, sharp, tearing, vice-like pain, are clinically characteristic of the disease, and point to anoxia of myocardium from coronary occlusion. The pain in severe cases often follows premonitory chest symptoms, and, while it is described as being typically retrosternal, frequently radiates to right or left in the thoracic region and not uncommonly is epigastric or abdominal, and may be accompanied by local tenderness and even muscle spasm. It is not relieved by the ordinary dose of pain-relieving drug nor by the vasodilators, amyl nitrite and nitroglycerin. It may simulate an acute abdominal condition and lead the unwary surgeon into needless and harmful operative procedure.

Patients suffering this catastrophe need early diagnosis, for treatment predominantly rests upon protection from further damage and requires sedation and absolute rest in bed. The electrocardiogram in almost all cases shows characteristic changes which are conclusive and diagnostic even when symptoms may be slight. Repetition of the procedure is indicated in the rare case where it fails early to show any of the changes common to myocardial damage. The procedure generally shows such diagnostic changes even on the second day, and reveals progressive changes when repeated at two to three day intervals. When the lesion is established and there is absorption from the area of necrosis the blood sedimentation rate becomes more rapid and persists so, long after the leucocytosis and the neutrophilia have disappeared. This test is especially valuable in differentiating myocardial infarction from angina pectoris.

Nervous Exhaustion

A non-organic disease, or a non-pathological entity, has become within the last

three decades a fairly common term in certain medical literature. For lack of a more scientific background for diagnosis, it is accepted even by a pathologist because an ever-increasing number of individuals who are physically and possibly mentally exhausted and living in anxiety states have prolonged, unexplained fever without organic basis. In these patients rest, relaxation, relief from responsibilities and anxieties, change of environment, and a regular schedule of work and play, with a balanced diet, work their magic. A Chinese writer, Lin Yutang, has truly said, "American worship of hard work is a national cross on which men crucify themselves".

Causes of Undiagnosed Fever

Don't forget:

1. Toxic goiter
2. Malignancies
 - (a) Tumors
 - (b) Blood diseases
3. Tuberculosis
4. Syphilis
5. Cardiac infarction
6. Nervous exhaustion



Common Mistakes in the Diagnosis of Skin Diseases

By PAUL H. POWER, M.D.
Waco, Texas.

ONE of the most frequent mistakes is that of confusing the *herald spot* of

Pityriasis Rosea with *Tinea Circinata*, (ringworm of the body). This is a round, oval, fawn-colored lesion; the entire space is covered with fine cigarette scales; the border is not vesicular or papular and the center is not clear, as we expect to find in *Tinea Circinata*. If the scales are removed and macerated with 33% potassium hydroxide, glass slide heated gently and examined under the microscope, mycelia and spores will be readily recognized in *Tinea Circinata*.

The herald spot usually appears from 3 to 10 days prior to a shower of round, oval lesions, varying in size from pin point to split pea size, dime or even quarter, fawn-colored, occurring along the lines of cleavage of the trunk and chest, and the lesions may involve the entire body from the scalp to the dorsal surfaces of the feet. It generally takes from 3 to 8 weeks for complete evolution, and about the same length of time for complete resolution. The mucous membranes have been reported as being involved.

Although two cases have occurred in the same family, it is not felt that this is an indication of its being infectious or contagious, but rather coincidental.

This must also be differentiated from the secondary lesions of syphilis. These are generalized, the patient usually has some concomitant signs and symptoms, with the history of exposure and perhaps a primary lesion, positive serological tests and dark field examination.

(To be continued)

Diagnosis of Bronchial Obstruction

Patients suffering from bronchial obstruction usually give a history of cough, pain in the chest, and, not infrequently, of spitting blood.

Physical signs: A unilateral wheeze, with diminished breath sounds, is heard if the bronchus is only partially narrowed. The wheeze disappears and breath sounds are absent in one lung when the obstruction becomes complete.

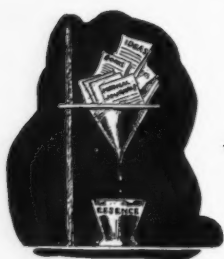
X-Ray signs: A large film should be taken at the height of inspiration and another film after expiration is complete. By comparing the two films, it may be seen that the affected lobe does not collapse on expiration. Lateral films may show a tumor or foreign body of paper-like thinness or one hidden normally by the diaphragm. Visualization of the bronchus usually requires films taken with

the bulky diaphragm, the planograph, or after introducing lipiodol into the trachea.

Early cases of bronchial obstruction show emphysema of the affected lobe and movement of the heart away from the affected side. Advanced cases show collapse of the lobe (atelectasis) and movement of the heart toward the affected side.

Tuberculosis, foreign bodies, non-tuberculous infections (bronchial obstruction is only temporary in this type), tumors both benign and malignant, and bronchiectasis are causes of bronchial obstruction.

If bronchial obstruction does not quickly disappear, a bronchoscopist should be consulted and the diagnosis completed. —G. W. HOLMES, M.D., in *Northwest Med.*, Nov., 1942.



CLINICAL NOTES and ABSTRACTS

Microfilm copies of any of the published papers here abstracted, up to 25 pages, may be obtained for 25 cents from Microfilm Service, Army Medical Library, Washington, D.C.

Glaucoma and the General Clinician*

APPROXIMATELY 20,000 men and women in the United States are totally and incurably blind, and 100,000 others have lost part of their sight, as the result of glaucoma, which is responsible for 10 percent of all blindness in this country. The disease is usually controllable in its beginning, but it is hopelessly fatal to sight after serious changes have taken place in the structure of the eye.

The task of the general practitioner is threefold: to discover the presence of glaucoma among his patients, to refer them to eye clinics or ophthalmologists, and to cooperate with the latter by furnishing all the data concerning the general health of the patients.

In many cases, even when patients know that they have glaucoma, they neglect to visit their doctors or clinics and postpone operations until it is too late. It should be emphasized to the general public that the chief hope for sufferers from this disease is through *medical care started early and carried out continuously.*

Acute glaucoma has a stormy beginning and runs an exciting course. It is characterized by excruciating pain in and around the eye, almost complete loss of vision, one-sided headache, nausea, vomiting, dilatation of the pupil, and a cloudy cornea. Occasionally, the inexperienced physician may think he is dealing with a gastric upset or iritis, and valuable time is lost. And yet the diagnosis is simple: loss of vision, *hardening of the eyeball*, congestion, and cloudy cornea are pathognomonic of acute glaucoma. Immediate action can save the eye from blindness.

But for every case of acute glaucoma there are about 10 cases of a different type—*simple glaucoma*—which sneaks into a patient's eye almost without his knowledge, gradually and almost painlessly robbing him of his sight. It is for the early discovery of this type of glaucoma that the medical practitioner's help is needed.

The impairment of vision usually begins in one eye at first. It usually appears around the age of presbyopia or menopause, somewhere between 40 and 50 (at times later), with an occasional blur in front of one or both eyes and a slight, one-sided headache. The patient experiences some difficulty in reading; a few hours spent playing cards or at the movies leave him with an uncomfortable feeling in his eye and blurred vision; or he may see rainbow-colored halos around the lights. This dangerously mild course may last a long time (months or even years) before the patient becomes aware of a considerable loss of central vision and of a defect in the peripheral field of vision. Most of the time the loss is not recoverable and, then, the problem is how to arrest further loss of vision.

The proper technic could be acquired in a few hours by attending lectures and demonstrations organized by ophthalmologists of your locality.

1. Measure the acuity of vision. The cause of subnormal vision of one or both eyes must always be investigated.

2. Examine the size of the pupils and their reaction to light. Inequality of pupils or poor reaction to light is not to be ignored.

3. Feel with the fingers whether the eyes are normally soft or hard. One can

*N. Y. St. J. of M., Nov. 15, 1941.

acquire this "feel" by instruction and practice.

4. Examine each eye with the ophthalmoscope and find out whether the optic disks are pale and excavated.

5. Ask the patient about the occurrence of occasional blurring or clouding of vision, seeing rainbow rings around a distant light, one-sided headaches, discomfort in or around the eyes after movies, excitement, and worry. Inquire whether the patient experiences difficulty in reading in spite of recently prescribed glasses.

6. Ask whether there is a case of glaucoma in the family. Above all, exercise tact so as not to alarm the patient unduly, but if glaucoma is suspected, refer him to an ophthalmologist at once.

With a pair of healthy eyes, patience, and ten carefree hours at his disposal, any medical practitioner can acquire the necessary knowledge and skill to make an ophthalmoscopic examination.—MARK J. SCHOENBERG, M.D., New York City.

♦

Resuscitation of the Newborn

A new born infant which does not breathe normally should have the trachea aspirated at once. A semirigid catheter of latex or similar substance, approximately No. 12 French, is smoothed off with emery paper on the tracheal end, and can then be introduced by using an electric-lighted infant laryngoscope (several inexpensive models are now on the market). The laryngoscope is used like a tongue depressor to force the tongue and epiglottis anteriorly, and the catheter is gently introduced into the larger tracheal opening, which lies just in front of the smaller esophageal opening. The open end of the catheter is placed in the attendant's mouth and suction applied. By removal of the tracheal mucus, immediate death from asphyxia is prevented and death in two or three days from aspiration pneumonia is avoided.—R. TORPIN, M.D., in *J. A. M. A.*, Jan. 9, 1941.

[This substitution of a simple, safe method in place of blind catheterizing of the infant's trachea will result in the relief of "blue babies." These small laryngoscopes can be used with the child lying on its back, and are little more difficult to employ than a tongue depressor. They are of value at any time a youngster is having trouble in breathing, due to a foreign body, membrane, or mucus, and will be found to have many uses in general practice.—Ed.]

Therapeutic Uses of Heat

Physical therapy can become as absorbingly interesting as any other branch of medicine, if the physician has a knowledge of, and skill in, the use of the needed tools, equal to that required in the practice of the other specialties; if not, then physical therapy becomes merely glorified "home treatment."

When heat is applied to any extremity and *increased pain follows*, the heat is too intense for the circulation, and must be stopped. This is especially true in such conditions as diabetic gangrene, thrombo-angiitis obliterans, Raynaud's vascular spasm, and so on. The application of heat in such cases is harmful and will cause increased tissue damage.

Starr has shown that, if the legs of patients suffering from advanced *vascular disease* are placed in water baths varying from hot to cold, they continue to suffer pain, but are partially or completely relieved when the legs are immersed in a bath of neutral temperature (92° to 94° F.). Diathermy, if used at all in such cases, should be employed only through the pelvis.

In the treatment of *infection and inflammation*, that temperature should be used which *relieves pain*, which is essentially produced by pressure that interferes with the return circulation. Once the temperature at which pain is lessened, is found, one should slowly increase the temperature, aiming at an increase of circulation without an increase of pain.

In the treatment of *shock*, do not attempt to warm the patient rapidly by externally applied heat. This may cause a wide opening of the peripheral vessels and a draining off of the already inadequate blood volume, followed by complete circulatory collapse.

In the treatment of *abdominal pain* due to appendicitis, peritonitis, peptic ulcer, and gastric hemorrhage, heat should be applied after any necessary surgical treatment has been given. Recent study has shown that ice packs cause vigorous muscular movements in the stomach and the small and large intestine. Heat to the abdomen causes a reduction in peristalsis, anemia of the mucous membrane, and a decrease in secretory action.

Never tell a patient to use hot applications without informing him that water hotter than 110° F. should not be used. This is especially important when the heat is to be applied to a finger or toe. Shortly after immersing an extremity in hot water, the patient becomes

less conscious of the heat and concludes that the water has cooled. This is only partly true. What has happened is that his nerve endings have become less sensitive to heat, and he may keep on adding hotter water until the temperature reaches 120° F. With increased heat intensity, the vasomotor system is interfered with and the circulation arrested, possibly to the point of gangrene.

The maximum benefit from hot applications will be obtained in half an hour. Hot applications should not be used on sprained ankles, at least until after the period of capillary bleeding has passed.

Tell the patient not to go to sleep on an electric pad. The accumulated heat cannot be carried away by the blood stream, and a burn ensues.

Hard and stiff contractures may be remedied by the use of daily paraffin baths. All that is necessary is a double boiler and 8 pounds of paraffin. The paraffin is melted, and then allowed to cool until the hand or foot can be dipped into it without burning. The dipping is repeated until four or five layers cover the part, the paraffin cast is allowed to remain on for from 15 to 30 minutes, and is then peeled off and returned to the double boiler.—F. H. EWERHARDT, M.D., in *South. Med. J.*, Jan., 1943.

Second Attacks of Rubella

We are having an epidemic of rubella in South Milwaukee, Wisconsin.

According to Meakin's "Textbook of Medicine", second attacks of rubella are, he quotes, "extremely uncommon". Holt and Howland's textbook on "Diseases of Infancy and Childhood" states, "It occurs but once in the same individual".

I would like to correct this misconception. I have seen two patients, one a seven year old and the other an eight year old child, who have had attacks of rubella and had a normal convalescence returning to school and six weeks later have had new attacks of this disease. In the case of the boy, aged eight, the second attack was much worse than the first. In the case of the girl, aged seven, the second attack was milder than the first attack.

With thousands of cases of rubella all over the country today, there should be more reports of second attacks.

The City Health Department tells me that they have at present seven patients who have had attacks of rubella more than once.—HAROLD H. OBERFELD, M.D., South Milwaukee, Wisconsin.

Calcium and the Teeth

No calcium can be withdrawn from or deposited in teeth that are fully calcified, because such teeth are avascular and acellular, providing no mechanism for the transfer of calcium. The great calcium reservoir of the body is the bones, from which the fetus draws what it needs. Calcium and vitamin D therapy is of great value during childhood, because the calcification of all permanent teeth and a portion of the deciduous teeth occurs after birth.—VERN D. IRWIN, D.D.S., *Minn. Med.*, Nov., 1942.

Look for THE LEISURE HOUR among the advertising pages at the back.

Causes of Hemoptysis

Fifty years ago, hemoptysis almost always meant tuberculosis, with mitral disease in second place. These diseases are still the principal causes of this symptom, but modern methods of diagnosis have disclosed a number of others, as shown in Chart I.

CHART I

NATURE OF LESION	NUMBER OF PATIENTS
Bronchiectasis	138
Primary carcinoma of bronchus	82
Tracheobronchitis	74
Pulmonary abscess	51
No evidence of disease	34
Non-suppurative pneumonitis	15
Suppurative pneumonitis	11
Adenoma of bronchus	11
Secondary cancer of lung	6
Lobar atelectasis	4
Primary carcinoma of trachea	2
Other conditions—one of each	8
TOTAL	436

Every patient with true hemoptysis (excluding hematemesis and bleeding from the mouth and throat) should have a thorough fluoroscopic and roentgenographic study, and bronchoscopy should be performed as soon as gross bleeding has ceased for several days (it may safely be carried out at once if there is mere streaking of the sputum with blood).

Since hemoptysis is a rare early symptom of bronchial carcinoma, the bronchoscope should be used on all suspected cases before this symptom appears, if the patient is to be helped.—DRS. CHEVALIER L. JACKSON and SIDNEY DIAMOND, in *Am. Rev. of Tuberc.*, Aug., 1942.

Weight Gain and Eclampsia

No woman whose weight is carefully watched and who is not permitted to gain more than 20 pounds during pregnancy will have a toxemia or eclampsia. Eclampsia is due to *hydration of the body tissues*, and the *earliest sign* of its onset is an increase in body weight, often rather rapid, which should be treated by *removal of all salt* from the diet and restriction of liquids, until the weight is normal. Eclampsia is treated by restriction of liquids, spinal puncture, and intravenous injections of cextrose solution. The rapid reduction of the edema of brain is followed by cessation of seizures and return of normal consciousness.—J. O. ARNOLD, M.D., in *Med. World*, Dec., 1942.

Clinical Significance of Postauricular Edema

The appearance of edema behind the ear should suggest these diagnostic possibilities:

Mastoiditis, acute suppurative

History of cold or sore throat, followed by pain in the ear and discharge of pus spontaneously or after incision of drum; tender, swollen mastoid process; swelling of canal wall superiorly and posteriorly near the drum; moving the auricle does not cause pain.

Suppuration of a lymph node

Etiology: Scalp infection, pediculosis capitis; acute purulent otitis media. The outlines of the node can be palpated for the first 5 days. The patient appears well, usually has little pain, complains of very marked tenderness on palpation. There is good hearing in the ear; the canal is not swollen.

External otitis, acute circumscribed ("boil in the ear")

Follows scratching of ear with finger or toothpick; no preceding upper respiratory infection. The ear feels "full," itchy and later, painful. The canal is swollen; one localized point of tenderness indicates the abscess. There is marked pain on moving the auricle.

Direct injury to the mastoid region

Injury to the mastoid is frequent in children. A localized discolored area is often found.

Drug rash

A "home remedy" has been applied to the skin or dropped in the ear. The skin is reddened, swollen, markedly tender and hot. The swelling does not pit. The ear is normal when examined with the otoscope.

Thrombosis of the emissary vein

Five weeks previously, the patient had a cold which lasted for a few days, accompanied by a low grade fever and occasional ear pain. He feels well until chills and fever appear. An area of localized inflammation is seen directly below and slightly posterior to the mastoid process. The ear drum may appear normal or slightly inflamed. The diagnosis is made on the basis of the chill followed by a "spiking" fever (ranges from 101° to 105° F.).

Mastoiditis in infants (Granuloma of the mastoid)

This condition occurs in infants under 18 months of age. Often, there is a history of discharge for 4 to 6 weeks. A small amount of foul smelling secretion is found in the canal and the posterior-superior canal wall is swollen. The postauricular edema is painless; fluctuation and pitting are present. Pressure over the swelling increases the amount of discharge, proving that a direct communication exists between the swelling and canal.

—JOSEPH KASNETZ, M.D., in *E.E.N.T.M.*, Mar., 1943.

The Use of Digitalis

Digitalis is absorbed by the heart muscle and *primarily increases the force of the systolic contraction*, thus helping to empty the ventricles more completely, in a failing heart. The period of systole is shortened, which allows more time for the diastolic filling of the ventricles. Thus, *digitalis may cause marked improvement in heart failure without cardiac slowing*, so that the pulse cannot be relied upon as the sole indication of sufficient digitalization.

Doses of 5 or 10 drops of tincture of digitalis, three times daily, in an untreated case, are *worthless*, because such small doses cannot saturate the heart muscle. *Large doses* must be given, and then small doses can be used for maintenance. Eight (8) cat units (c.u.) may be given at once, followed by 4 c.u. in six hours, and 2 c.u. every

six hours until improvement has occurred.

Slowing of the pulse, especially in auricular fibrillation, may be used as one guide to dosage. The appearance of anorexia, nausea, vomiting, abdominal discomfort, or visual disturbances indicates *overdosage*, and may be compensated for by omitting several doses of the drug.

In toxic and degenerative heart disease, the doses should be one-half these amounts, as the heart is more sensitive. These cases include the hearts damaged by a goiter, coronary thrombosis, or acute infections.—M. BARRON, M.D., in *Minn. Med.*, Dec., 1942.

The Use of Seconal in Children*

Seconal (Lilly) is a very safe, extremely rapid and relatively short acting sedative. There are many times when we desire to quiet a child quickly for a short time, but hesitate to make him stuporous for 6 to 12 hours. Proper sedation is tremendously important in the care of sick infants and children. The sick child at home often needs little more than adequate rest to see him through casual illnesses. In minor infections, it has always seemed to me more rational to insure the child's sleep than to allay the mother's anxiety by giving aspirin until the fever is forced down. With the more seriously ill child, I would prefer that the child and mother were quietly asleep, rather than that the mother was repeatedly wielding a rectal thermometer to see if the fever was gone.

Dosage: The medication is furnished in $\frac{3}{4}$ and $1\frac{1}{2}$ gr. capsules. The rectal route is preferred for infants because of the unpleasant taste of the powder. The intact capsule is moistened and inserted like a suppository. If fractional doses are desired, the powder can be suspended in $\frac{1}{2}$ ounce of tap water and given with a small syringe.

Age	Dosage	
1-3 months	$\frac{1}{4}$ - $\frac{1}{2}$ gr.	rectally
3-6 months	$\frac{1}{2}$ - $\frac{3}{4}$ gr.	"
6-36 months	$\frac{3}{4}$ -1 gr.	"
3-8 years	$\frac{3}{4}$ to $1\frac{1}{2}$ gr.	"
	$\frac{3}{4}$ gr.	orally
8-15 years	$\frac{3}{4}$ to $1\frac{1}{2}$ gr.	"
	$1\frac{1}{2}$ gr.	rectally

These doses may be repeated safely once within an hour if the desired result is not obtained, or may be given every

4 hours for many days if prolonged sedation is needed. Within 6 to 20 minutes the child usually falls asleep and in 30 minutes analgesia is partially obtained.

The maximal effect is obtained by keeping the patient in completely quiet surroundings for 20 to 30 minutes before attempting any diagnostic or therapeutic procedures. The hypnotic effect disappears by the end of six hours.

Minor Surgery Under Seconal Analgesia

Hypodermoclysis, venoclysis, blood transfusion, cystoscopy, intravenous pyelography, lumbar puncture, thoracentesis and other minor surgical procedures can be readily performed under Seconal analgesia plus the local use of procaine solution where indicated. The avoidance of straining is especially important in the aspiration of empyema. Incision of the ear drum, incision of small abscesses and small pinch grafts are much aided by the general analgesia.—H. F. DIETRICH, M.D., Beverly Hills, Calif.

Simplified Staining with Wright's Solution

De la Fuente has suggested a much simplified method of staining with Wright's solution, which he has found very successful.

1. Cover the dry smear with a few drops of Wright's staining solution.

2. *With the breath*, blow the smear as uniformly as possible until it becomes pinkish-violet in color. This process will consume about ten seconds. The harder one blows, the faster will be the fixation of the stain.

3. Wash with tap water.

4. With the water running slowly over the slightly tilted slide, pour on a few drops of Wright's stain. The contact between it and the smear should be made as short as possible. A long contact may decolorize the smear.

5. Wash, dry, and examine under oil immersion.

Blowing on the smear accelerates the process of staining, reducing its duration to seconds. Washing of the stained smear with Wright's solution dissolves the precipitated particles of stain remaining from its original application and drying. If understained, repeat step 4. The process of restaining and decolorizing may be repeated several times on the same smear.

When one wishes to make a more thorough study of red blood cells and

*Anesthesia and Analgesia, Jan.-Feb., 1943.

platelets, the following modification is inserted between steps 3 and 4:

Dry the film; put one drop of cedar-wood oil over it; add xylol to dissolve and, with the palmar surface of the small finger, cover the whole slide with the solution, in the same way as when cleaning a slide after use; dry and proceed to step 4—V. DE LA FUENTE, M.D., in *J. Lab. & Clin. Med.*, 27:351, 1941.

Diaphragmatic Hernia

An elderly patient who complains of epigastric or substernal distress at night, relieved after sitting up in bed or getting up and walking around, probably has a hernia of the stomach up through the esophageal opening in the diaphragm. This condition, formerly thought to be rare, has been shown to occur rather frequently in middle-aged and old persons who were suspected of having, and even were treated for coronary disease. Indigestion, nausea, and vomiting may occur. Gallbladder distress is often simulated.

Diagnosis: The diagnosis can be confirmed by having the patient swallow barium while on a fluoroscopic table tilted in the head-down position.

Treatment: Frequent small meals, consisting of easily-digested foods; the patient should remain upright for a time after eating, and sleep with the head and chest elevated moderately; all straining activities should be avoided, if possible. If symptoms are not relieved, the condition can be cured surgically.—D. YOUNG, M.D., in *Rev. Gastroent.*, Sept., 1942.

X-Ray Therapy in Infections

Radiation therapy has a definite place in the treatment of acute superficial infections. It is a relatively harmless agent with great potentiality, and its range of application should be widened.

Irradiation, in small doses, has no bactericidal action upon laboratory cultures, but has a decided inhibitory influence on bacteria in living tissue.

The most outstanding results have occurred in early infective processes. Acute furuncles, carbuncles, lymphangitis, and other localized inflammatory conditions may undergo resolution without suppuration, thus obviating the necessity of mutilating incisions that leave ugly scars. In late inflammatory conditions, after necrosis begins, x-rays increase tissue disintegration, which causes a noticeable increase in drainage

and more rapid healing. Pain is usually relieved within from 4 to 8 hours, and if drainage is necessary it can be done much sooner.

Small doses are preferable to large doses and soft rays are more desirable than hard rays. An application of from 75 to 125 r. of x-rays, using 90 kv. and 1 millimeter of aluminum filter at 10 inches' distance, every other day for 4 treatments, is satisfactory in deeper lesions; whereas single doses of unfiltered rays are best suited for superficial ones. The field of therapy should extend well beyond the surrounding edges. This method does not produce an erythema or cause objectionable after-effects.—C. M. HAMILTON, M.D., in *South. M.J.*, Sept., 1942.

Pertussis Vaccine Therapy of Asthma

The injection of 0.1 c.c. of pertussis vaccine (one billion organisms) twice weekly for several weeks is often effective in relieving asthmatic attacks. If no reaction results, the dose may be gradually increased to 0.5 c.c. If after 4 injections, no benefit is obtained the vaccine will probably be of little value. Pertussis vaccine was first used because of the similarity in symptoms and lung findings with whooping cough.—H. SOKAL, M.D., in *Med. Rec.*, Dec., 1942.

Postoperative Abdominal Distention

The diagnosis of postoperative abdominal distention must be such as to rule out an intestinal obstruction. Simple x-ray examination of the abdomen permits a correct diagnosis (a flat plate may be taken without moving the patient from bed). The findings are:

Mechanical obstruction	Paralytic Ileus
1. Continuous distention to the point of obstruction.	1. Scattered loops of distended bowel.
2. Loops few and large.	2. Many small loops of bowel.
3. Occurs only occasionally.	3. Found after 75 per cent of abdominal operations.
4. May be symptomless or may have "gas pains"; if strangulated, will show no x-ray signs.	4. Appears on first postoperative day; lasts 3 days.
5. Dynamic bowel appearance.	5. Adynamic bowel appearance.

—J. LEVITIN, M.D., in *S.G.O.*, Oct., 1942.

MEDICO-MILITARY NOTES

The "Closed Plaster" Treatment of Wounds

THE "closed plaster" method forms the basis of all contemporary treatment of war wounds, including compound fractures. The wounds heal readily, the fractures usually unite satisfactorily, and the ultimate functional results are on the whole very good. The patient is free of pain and is spared the horror of frequent dressings. The method involves a minimum of labor and therefore makes less demands on the surgical, anesthesia, and nursing staff. Patients formerly confined to bed for long periods immediately become ambulant. Seriously wounded men can be transported to places of safety in comfort.

The best results are secured when the original technic of Orr is strictly followed. The gauze over the wound should be impregnated with vaseline or with "B.I.P.P." * Less pus is thus produced, the wound heals more rapidly, and the plaster cast can remain on much longer before the smell becomes offensive.

Once a wound has been treated and the part encased in plaster, the cast, within limits, should be left alone as long as possible. The smell should be ignored, and any discharge coming away from the edge of the cast, or from where it has been split, can be wiped away. Frequent changes of plaster are not recommended.

The indications for a change are: (1) when softening or wear renders the cast inefficient for immobilization of the part; (2) when the persistent stench becomes too objectionable; (3) when excessive soakage of infective material renders the outside of the cast septic; (4) when a dull, throbbing ache appears under the cast at a point remote from the wound — this usually means that a boil has developed; (5) when a sudden, sharp, intermittent, knife-like pain appears at the site of an infected, comminuted fracture, indicating the extrusion of a piece

*B.I.P.P. (Bismuth-Iodoform-Paraffin-Paste) is prepared from bismuth subnitrate 1 part, iodoform 2 parts and sufficient liquid paraffin to make a paste the consistency of clotted cream, according to Rose and Carless "Manual of Surgery" (William Wood & Company, Publishers, Baltimore).

of bone; (6) when there is an exacerbation of the signs of sepsis; (7) when there is evidence of a secondary hemorrhage under the cast; (8) when pain around bony prominences indicates faulty application; (9) when there is interference with circulation distal to the cast, and (10) when the wound is believed to be well on the way to healing. I usually endeavor to avoid changing the casts for 3 weeks, but unless there is a fracture I prefer to change them before 5 weeks have elapsed.

When a wound has granulated almost up to the surface it will heal more rapidly if the cast is discarded, provided there is no fracture which demands further immobilization. Rapid healing in these superficial wounds follows the production of a protective crust with boric-acid powder and hot air. Direct contact of cloth dressings impedes healing.—MAJ. F. V. STONHAM, Indian Med. Serv., in *M. J. of Australia*, May 30, 1942.

War Wounds

The greatest danger of war wounds is hemorrhage. In Spain, during the Civil War, in many instances the tourniquet was applied to wounds of the extremities to stop hemorrhage and then forgotten, with the result that gangrene, occurring in the ischemic area, necessitated unnecessary amputation of the limb. In other instances, a man with a compound fracture of the femur and bleeding would be carried on the back of a mule through mountain trails to the nearest first aid station, reaching there in a state of shock, with both ends of the femur sticking out of the wound, and dripping blood along the road.

Wounds by rifle bullets are less dangerous. Wounds by artillery shells and bombs are the most favorable for the growth of anaerobic bacteria, because of vast lacerations of muscles, internal hematomas, and penetration into the wound of pieces of cloth and dirt. The identification of the germ which is the causative agent may be of great aid in the selection and preparation of anti-serums, although at present polyvalent serums are available for immediate administration.

It must be borne in mind that bacteria are more abundant in humid soil and that gangrene is more frequent in

winter than in summer, on account of the conditions of the soil, increased vitality of germs, and lack of cleanliness on the part of the soldiers. Soft soil is many times more dangerous than hard, dry soil, and is also more difficult to remove from wounds, on account of its adhesive qualities. Also, during the wet season, contamination with excreta is apt to be more heavy.

Men now may be wounded while working on machinery or engaging in mechanical warfare, but according to the experience of the Italians in Ethiopia and Spain and of the Germans in the various campaigns in Europe, oil and grease are not as septic as the dirt of the country and animal excreta. A war wound has characteristics which essentially relate to the particular countryside where the wound was inflicted, and the more humid the soil, the more polluted is the wound.—MICHELE GERUNDO, M.D., in *Med., Rec.*, July, 1942.

♦

Microscope and Gunsight

To win a war of guns, only to lose our lives to disease, would be a needless repetition of the horrible mistakes of the past. The man who peers through a microscope, in research to combat the many unfamiliar diseases to which our men are being and will be exposed, may be defending his country as surely as the man who uses the same basic physical and optical instruments to aim a gun.—PRES. O'CONNOR, Ohio Fed. of Pub. Health Officials, in *National Foundation News*, June, 1942.

♦

Care of Troops in the Tropics

It is no easy task to organize a large wartime medical service and to train the specialized personnel required to combat the unfamiliar tropical diseases.

All our troops are protected against typhoid and smallpox, and those who are at all likely to be exposed to yellow fever, typhus, and cholera are inoculated against these diseases. Against many others, reliance must be placed on sanitary measures directed to the destruction of the disease-transmitting insects or to reducing exposure to them by screening of buildings, by protective clothing and netting, and by use of repellent substances. Such measures are the main defense against *sandfly fever* and *dengue*, which are major causes of sickness in some areas, but fortunately are seldom fatal.

Malaria is by far the most serious disease problem. This is the outstanding

killer in many tropical countries. Its control is difficult, because we have no specific method of prophylaxis. Under normal conditions, control depends chiefly upon destroying the breeding places of the malaria-carrying mosquitoes. These mosquitoes, however, are so prevalent that it is impossible to prevent infection, but its ravages can be checked by routine administration of quinine or synthetic drugs — principally atabrine. These do not prevent the disease, but merely postpone its manifestations. In combat areas, they are the only dependable measure.

The *intestinal disorders*, including *dysentery*, likewise constitute an ever-present problem in the tropics. Troops located in those regions cannot escape them, especially where active military operations are going on, as in North Africa, the Solomons, and New Guinea. Preventive control requires rigid adherence to prescribed sanitary procedures and instruction of the men in measures to protect themselves.

Typhus is popularly associated with eastern and southeastern Europe, but is by no means limited to these places. North Africa is an important focus of the disease; only this year severe epidemics have occurred in every part, from Morocco to Egypt. Typhus is of little danger to our troops fighting in Northern Africa. Relatively simple and tried sanitary procedures should probably suffice to keep them free from typhus in Africa as well as in other endemic areas.

The climate itself is a specific hazard in the tropics, although the seasoned troops suffer far less from the heat than new arrivals. — *Statistical Bulletin*, Metropolitan Life Ins. Co., Dec., 1942.

♦

Treatment of Immersion Foot

Immersion foot is caused by exposure of the foot to water for long periods of time. It is best treated by (1) keeping the patient dry and warm, except for his feet, (2) lightly dusting sulfanilamide powder on any wounds, cuts or sores, (3) wrapping the legs in some soft, clean material and elevating them on pillows. The patient must not stand or walk and no applications are used. Survivors treated in port have their feet wrapped in sterile towels to keep them dry, and packed in ice, or kept under a blast of cool air from a fan, because the success of the treatment depends on bringing the feet back to normal temperature very slowly, over a period of weeks.—*Science Service*.



THUMB NAIL

THERAPEUTICS

Hirschsprung's Disease

• Congenital enlargement of the colon (Hirschsprung's disease) can be simply treated by giving several spinal anesthetics at ten-day intervals. The patient is given 3 grains (0.2 Gm.) of Nembutal, and then enough procaine, dissolved in cerebrospinal fluid, to produce anesthesia up to the sixth thoracic segment. — DONALD COURT, M.B., in *Proc. Royal Soc. Med.*, Oct., 1942.

[These children, with large abdomens and obstipation, have been treated by radical methods, including operations on the sympathetic nervous system. This simple method should be tried first. Those who have seen the spectacular effect of spinal anesthesia on the distended abdomens of patients, postoperatively, feel that this treatment has practical value.—Ed.]

Cardiac Hypertrophy

• Cardiac hypertrophy (enlarged heart) is an evidence of heart failure, and should be treated as such. Digitalis should be administered, as in the treatment of the decompensated heart, to prevent true failure.—J. T. ROBERTS, M.D., in *Texas S. J. M.*, July, 1942.

Catheterization

• Do not entirely empty the bladder when catheterizing for prostatic retention, if a catheter has not been used previously. Remove one pint at the first catheterization and repeat every four hours until the bladder is empty.—H. LETT, M.D., in *Med. World (Lond.)*, Nov., 1942.

Chronic Prostatitis

• Chronic prostatitis is often perpetuated by the presence of a small meatus or urethral strictures. If massage of the prostate, at 5- to 7-day intervals, does not soon improve the symptoms and the patient's sense of well-being, graduated sounds should be passed and the urethra dilated.—RAYMOND THOMPSON, M.D., in *South. Med. & Surg.*, Sept., 1942.

Neoprontosil in Eye Injuries

• In injuries of the conjunctiva and cornea, the instillation of Neoprontosil solution, 2½ percent, results in rapid epithelial regeneration and controls secondary infection. It may also be used in the treatment of conjunctivitis, blepharitis, and marginal ulcers.—E.E.N.T.M., Oct., 1942.

Interstitial Cystitis

• Interstitial cystitis—also called Hunner's elusive ulcer of the bladder, irritable female bladder, and submucous cystitis—is found much more frequently in women than in men. *Symptoms:* Frequency of urination, both day and night, urgency, and bladder pain are prominent. *Signs:* The bladder capacity is small; with a catheter, one may not be able to introduce more than two ounces. A few pus cells and blood cells are often found in the urine, which is clear.

Treatment: Daily irrigations of the bladder with gradually increasing strengths of silver nitrate solution are carried out with small, soft catheters.—*South. M. & S.*, June, 1942.

Mydriasis

• When combined with cocaine, atropine has a more prompt action in producing dilatation of the pupil than when used alone.

It

Atropine sulfate	0.25
Cocaine hydrochloride	0.50
Vaseline	30.00

—E. E. N. T. M., Sept., 1942.

X-Rays for Scars and Keloids

• Roentgenray therapy is a safe, effective method for the treatment of scars and keloids, resulting in flattening and softening of the scars, improved function (where scars bind down extremities or the chin), relief of local symptoms, and prophylaxis against recurrence after operative removal.—A. F. HUNTER, M.D., in *Radiol.*, Oct., 1942.

Pyuria

• In mild cases of pyuria, alkalization should be complete and prolonged over a period of one month.—J. RYLE, M.D., in *Med. World (Lond.)*, Nov., 1942.

DIAGNOSTIC POINTERS



"Drug" Fever

• When a febrile patient, receiving medication, does not look as ill as the fever would indicate and has a pulse which is slow in proportion to the fever, "drug" fever is the probable cause. The medication (frequently one of the sulfonamides, though any drug may cause fever) must be stopped. — H. WALKER, M.D., in *Va. Med. M.*, Jan., 1943.

The recurrence or exaggeration of fever, leukopenia, and skin eruptions on administration of a drug constitute the only basis on which to make a diagnosis of "drug" fever. There are no tests that are of value. The administration of other drugs with sulfonamides does not tend to sensitize the patient to the sulfonamide. — WARREN VAUGHAN, M.D., in *Va. Med. M.*, Jan., 1943.

Buttock Wounds

• The importance of the buttock wound as a potential avenue to the abdominal cavity cannot be stressed too strongly; the wound of entry is found in this region in about 20 percent of all cases of abdominal injury. It is most important that the minute wound be not overlooked, and one of the most important surgical instruments in the reception room is a pair of large shears so that the clothing can be thoroughly cut up and the patient examined all over. — SURGEON REAR-ADMIRAL G. GORDON-TAYLOR, in *Med. Press and Circ.*, Mar. 4, 1942.

Arteriosclerosis

• High blood pressure, cardiac hypertrophy, and albuminuria do not make a diagnosis of renal disease. Arteriosclerosis can account for these signs. — HUGH McLEAN, M.D., in *Med. World (Lond.)*, Nov., 1942.

Tuberculosis in the Old

• The highest death rate from tuberculosis occurs in men of from 65 to 74 years, and in women of 75 years or older. The physician should always suspect tuberculosis in all his elderly patients who have even mild pulmonary symptoms, and should not rule out this disease before making a final diagnosis. — DRs. RAYMOND E. MILLER and BEATRICE HENDERSON, in *Am. Rev. Tuberc.*, Aug., 1942.

Urinary Infections

• All urinary infections which do not improve quickly under medical treatment should be examined, cystoscopically and with the ureteral catheter, for mechanical obstruction and for evidence of tuberculosis. — LANGDON BROWN, M.D., in *Med. World (Lond.)*, Nov., 1942.

Thiamin Deficiency

• Patients who are irritable, depressed, quarrelsome, apprehensive, uncooperative, tense, agitated, inefficient, clumsy, disinclined to work, and unable to sleep or get along with people, may be suffering from a deficiency of thiamin, which can be relieved by proper doses of that vitamin. — R. D. WILLIAMS, M.D., et al., *Arch. Int. Med.*, May, 1942.

Mouth Lesions in Sprue

• Soreness of the tongue, mouth, and pharynx is common in all forms of sprue, especially in the tropical type. The tongue may be atrophic, as in pernicious anemia. The mouth lesions may resemble those of pellagra. The stools show high total fats. — R. B. HAWES, M.D., in *Practitioner*, Sept., 1942.

Hypoglycemia

• A headache or sensation of pressure over the top of the head is the most frequently encountered nocturnal manifestation of hypoglycemia. — *Med. World (Lond.)*, Aug. 28, 1942.

Dermatitis

• Many common objects are covered with lacquer. Dermatitis is frequently produced by contact with lacquer, which contains a number of potential eczema-producing substances.

Children's toys may prove to be the cause of dermatitis of the lips and cheeks. Pencils, pens, and other objects, if placed in the mouth, may also be a cause. — *Med. World (Lond.)*, Aug. 28, 1942.

A LIVING FOR THE DOCTOR

THE BUSINESS OF MEDICINE AND THE ART OF LIVING

Indexing Medical Literature

When I read something in any journal, of which I wish to keep track, I turn the page so that a corner projects *down*; then when I get to it, I go over a bunch of magazines and cut out the most important articles which I wish to file in a cabinet easily available for reference. Articles of possibly less importance I index on a card, so that I can easily find them if I want them later. I cross-index, often using several cards for one subject so that I can easily find it. This saves me an immense amount of work in finding subjects which I wish to look up later, but which would, by a less careful system, often have to be given up as lost, and it places almost at my finger tips a very valuable library of useful information.

When I read any magazine, medical or otherwise, I turn the page so that a corner projects *up* at the place where I leave off, thus saving reading or leafing over pages already read. When a magazine is finished I mark "R", for "read," on the cover and stack it for later filing. In this way I lose no time leafing through a magazine with which I have finished.

C. ELMER FREY, M.D.

Houston, Tex.

[These suggestions are excellent, as we know from many years' experience with an even more elaborate indexing and filing system. Those of our readers who will undertake something like this, and *carry it out for a year*, will be delighted with the results.—Ed.]

Squandered Energy

You Americans wear too much expression on your faces. You are living with all your reserves in action. The duller countenances of the British people betoken a better scheme of life—they suggest stores of reserved nervous force to fall back on if the occasion requires it. Another thing about you gives me a sense of insecurity. You take too intensely the trivial moments of life.—WILLIAM JAMES, quoting a Scotch physician, in *St. Louis Co. Bull.*, Nov., 1942.

The Problem of the Tardy Garnishee

"Tom Brown's got a job to dig a cellar and put in a concrete wall for Ray Rigby, and Rigby's to pay him \$25 for the job. Brown's completed the work, and Rigby hasn't paid him the cash yet," the town encyclopedia announced.

"Brown's owed me a bill of \$50 nearly long enough to be outlawed," Doctor Medico averred.

"Why don't you see your lawyer and garnishee the money in Rigby's hands?"

"I'll try it," Doctor Medico agreed, and sought out Judge Enright.

"We'll simply make out the proper papers, get a garnishee order, serve it on Rigby, and if we can get our order served before he pays the money to Brown we can hold it," the Judge explained.

The garnishee order was issued, and the doctor and the lawyer went down to Rigby's office, where the lawyer served the garnishee order on Rigby.

"I'm sorry in a way," Rigby explained, "for I know that Brown is a regular 'dead beat' and he ought to pay his bills, but I sent him a check yesterday for every cent that was coming to him."

"Has the check been cashed yet?" Doctor Medico demanded.

"No, it can't be, for I know that he's away, and won't be home until day after tomorrow."

"Why can't we get Mr. Rigby to stop payment of the check at the bank, and go ahead and garnishee the money just the same," the doctor suggested.

"It's no go," Judge Enright explained, "for the law is well established that, if X owes Y, and Z owes X and pays X by check before Y's garnishee order is served on Z, the check operates as a payment and the garnishee order is of no effect, even though the check is not paid at the time the garnishee order is served."

"Well, I'm stung again, but you made a good try," Doctor Medico told him.

M.L.H.

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Reading maketh a full man
—LORD VERULAM

WAR SURGERY

Trueta

PRINCIPLES AND PRACTICE OF WAR SURGERY. By J. TRUETA, M.D., Formerly Director of Surgery, General Hospital of Catalonia, University of Barcelona; Present Assistant Surgeon (E.M.S.) Wingfield-Morris Orthopedic Hospital, Oxford; Acting Surgeon-in-Charge, Accident Service, Radcliffe Infirmary, Oxford, England. With an Introduction by OWEN H. WANGENSTEEN, M.D., Chief Surgeon, University of Minnesota, Minneapolis. 144 Text Illustrations. St. Louis, Mo.: C. V. Mosby Company. 1943. Price \$6.50.

This small text is far more complete than its title indicates. Plaster of paris technic is given in complete detail, clinical photographs and sketches showing the exact method of applying plaster patterns to each part of the body. The patterns are cut out so that they will fit with a minimum loss of time.

Many photographs show wounds as they are first viewed, during stages of healing and the end-result, together with original devices worked out by the author, such as the very simple apparatus for retaining a fractured olecranon in position when an injury or a compound fracture has resulted in potential infection.

Those surgeons who have opposed Winnett Orr's method of immobilizing infected wounds and bones will see here the results of treating hundreds of patients in that manner, and may be impelled to change their minds. The author lays emphasis on the complete excision of devitalized tissue as a necessary precedent to the immobilization in plaster.

DICTIONARY OF BIO-CHEMISTRY

DICTIONARY OF BIO-CHEMISTRY AND RELATED SUBJECTS. Editor-in-Chief, WILLIAM MARIAS MALISOFF, Professor of Bio-Chemistry at the Polytechnic Institute of Brooklyn. Copyright 1943 by Dagobert D. Runes. Published by Philosophical Library, Inc. New York, N. Y. Price \$7.50.

Almost 600 pages of text belie the title of dictionary. Brief definitions are not given of many topics; rather an authority presents a discussion on the subject, ranging from new theory to practical application, much as the contributors to the Encyclopedia Britannica submit individual articles.

Terms in chemistry, biochemistry, anatomy, botany, medicine and physics are defined and discussed by a staff of authorities from as many special fields. The staff of 46 consultants includes biologists, anatomists, chemists and other men from universities, hospitals, corporations.

Many topics that can be found nowhere else in available literature are here presented, often in detail. Older and newer words are defined so that the older literature becomes clearer when studied.

The author is to be congratulated on producing the first encyclopedia of biochemistry. May it grow larger.

THE PRINCIPLES AND PRACTICE OF OBSTETRICS

DeLee and Greenhill

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. By JOSEPH B. DELEE, A.M., M.D., Formerly Professor of Obstetrics and Gynecology, Emeritus, University of Chicago; Consultant in Obstetrics, Chicago Lying-in Hospital and Dispensary; Consultant in Obstetrics, Chicago Maternity Center, and J. P. GREENHILL, B.S., M.D., Attending Obstetrician and Gynecologist, Michael Reese Hospital; Obstetrician and Gynecologist, Associate Staff Chicago Lying-in Hospital; Attending Gynecologist, Cook County Hospital, Professor of Gynecology, Cook County Graduate School of Medicine. With 1074 illustrations on 841 figures, 209 of them in colors. Eighth Edition, entirely reset. Philadelphia and London: W. B. Saunders Company, 1943. Price \$10.00.

DeLee's text is the best illustrated on obstetrics. Those students who studied with its aid have a warm spot in their hearts for these sketches and photographs which taught so much and so easily. Men in practice have quickly reviewed their technic for delivery or section through this type of visualization.

For the first time, J. P. Greenhill is listed as co-editor. His hand is evident in the revision of material, the furnishing of new methods of management and illustrations of newer procedures.

DeLee and Greenhill's text is an obstetric library in itself.

UNDERSTANDING THE BIBLE

Hall

HOW TO UNDERSTAND YOUR BIBLE: A Philosopher's Interpretation of Obscure and Puzzling Passages. By MANLY PALMER HALL. Los Angeles, Calif.: Philosophical Research Society, 1942. Price \$2.50.

The Christian Bible, in the King James version, is undoubtedly the greatest collection of literature in English between two covers, but like many other great writings, it must be approached in an impersonal and open-minded spirit, with a sincere desire to know the truth, if it is to yield up its richness. It is a treasure chest that can be opened only by those who have a key such as Manly Hall has provided in this profound and unusual volume.

Few men are as well equipped to undertake such a task as is this author, who has spent most of his active life in the study of ancient and modern philosophies and religions and in tracing rare symbolisms to their sources. This is important when we remember that nearly every personality discussed in the Bible is not an historical individual, but a symbol of great and far-reaching truths.

Those who can read this work sincerely and without bias will be able to approach the Bible with a sense of eager freshness such as they never knew before, and will gain more from its study than they could previously have imagined. It is not, however, a book for the orthodox and dogmatic traditionalist.

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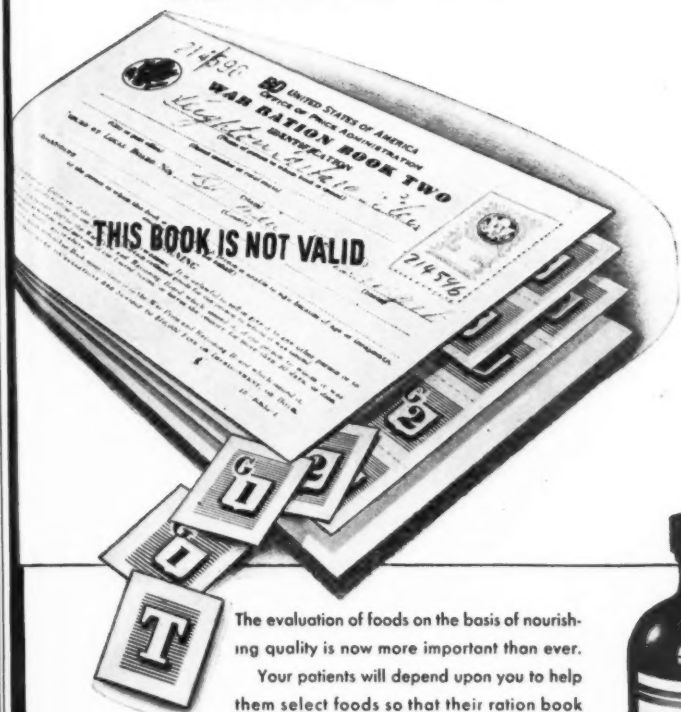
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